

INTISARI

PENGUJIAN TOKSISITAS AKUT EKSTRAK KULIT POHON PULAI (*ALSTONIA SCHOLARIS*) PADA MENCIT DENGAN METODE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) 423

Ilham Malik

16/398203/KH/08974

Salah satu keanekaragaman hayati yang dimiliki negara Indonesia adalah tumbuhan. Tumbuhan memiliki peranan penting bagi kehidupan manusia, selain dijadikan sebagai sumber pangan, obat dan bahan baku kebutuhan sehari-hari, beberapa jenis tumbuhan juga memiliki potensi sebagai obat alami. Kulit batang pulai menghasilkan getah yang bermanfaat untuk mengatasi demam, hipertensi, tonikum, ekspektorant, perut kembung, ginjal membesar, demam nifas, hemoroid, dan sakit kulit. Banyak senyawa aktif yang bermanfaat secara farmakologis dapat diperoleh dari kulit pohon pulai, namun belum dibuktikan secara ilmiah mengenai toksisitasnya.

Metode pengujian toksisitas yang dipilih berdasarkan *Organization for Economic Cooperation and Development* (OECD). Sebanyak 6 ekor mencit betina umur 2-3 bulan dengan rata-rata berat badan 27,5 g dibagi menjadi 2 kelompok, yaitu kontrol dan perlakuan. Kelompok kontrol terdapat 3 hewan coba diberi aquades secara oral 10 ml/kg BB. Kelompok perlakuan terdapat 3 hewan coba diberi dosis pertama 300 mg/kg BB secara oral kemudian diamati gejala toksik selama 14 hari. Pemberian dosis pertama tidak menunjukkan gejala toksik dan kematian, maka dosis dinaikkan menjadi 2000 mg/kg BB dengan 3 hewan coba baru sebagai perlakuan dan 3 hewan coba sebagai kontrol selama 14 hari. Analisis data berupa pengamatan gejala klinis, penentuan LD₅₀ dan kategori toksik. Gejala klinis dianalisis secara deskriptif melalui pengamatan hewan coba. Kategori toksik dan penentuan LD₅₀ berdasarkan *Globally Harmonized Classification System* (GHS) yang terdapat dalam metode uji toksisitas akut menurut OECD 423.

Hasil penelitian menunjukkan bahwa tidak ada mencit yang menunjukkan gejala toksik dan tidak ada kematian sehingga toksisitas ekstrak kulit pohon pulai dapat dikategorikan sebagai kategori 5 menurut *Globally Harmonized Classification System* (GHS) dengan nilai dosis toksik > 2000-5000 mg/kg BB dan perkiraan dosis letal (LD₅₀) adalah 5000 mg/kg BB.

Kata kunci: Toksisitas akut, Kulit Pohon Pulai, OECD 423, LD₅₀

ABSTRACT

ACUTE TOXICITY TEST OF PULAI TREE BARK (*ALSTONIA SCHOLARIS*) EXTRACT IN MICE USING ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) METHODS 423

Ilham Malik
16/398203/KH/08974

One of the biodiversity of Indonesia is plants. Plants have an important role in human life, besides being used as a source of food and daily necessities, some types of plants also have the potential as natural medicines. Pulai tree is recognized empirically by people in South and Southeast Asia (including Indonesia) has many medicinal benefits. The use of pulai as a drug is related to the content of secondary metabolites, especially compounds from the alkaloid, tanin and flavonoid groups. Many active compounds that are pharmacologically beneficial can be obtained from the bark of the pulai tree, but it has not been scientifically proven about its toxicity.

The toxicity testing method based on the Organization for Economic Cooperation and Development (OECD). A total of 6 female mice aged 2-3 months with an average body weight of 27.5 g were divided into 2 groups, namely control and treatment. In the control group there were 3 experimental animals given aquades orally 10 ml / kg BW. The treatment group contained 3 experimental animals given the first dose of 300 mg / kg BW orally then observed toxic symptoms for 14 days. The first dose showed no toxic symptoms and death, then the dose was increased to 2000 mg / kg body weight with 3 new animals as treatment and 3 animals as control for 14 days. Data analysis was in the form of observation of clinical symptoms, determination of LD50 and toxic categories. Clinical symptoms were analyzed descriptively through observations of experimental animals. The toxic categories and determination of LD50 are based on the Globally Harmonized Classification System (GHS) contained in the acute toxicity test method according to OECD 423.

The results showed that there were no mice that showed toxic symptoms and death so that the toxicity of pulai tree bark extract could be categorized as category 5 according to the Globally Harmonized Classification System (GHS) with a toxic dose value > 2000-5000 mg / kg body weight and estimated lethal dose (LD50) is 5000 mg / kg BW.

Keywords: Acute toxicity, Pulai Tree Bark, OECD 423, LD50